

**AMENDMENTS TO THE DRAWINGS**

In response to the drawing objections, reference numeral “40” at the right-hand side of Fig. 5(C) has been changed to “11” to designate inner-wall gas inlet openings. Reference numeral “26” has been removed from Fig. 6.

Attachment: Annotated Sheets (Figs. 5A to 5C and Fig. 6)  
Replacement Sheets (Figs. 5 A to 5C and Fig. 6)

**REMARKS**

Claim 1 has been amended to incorporate therein the recitation of claim 4, and to further recite that a tip end of the taper part 62 of the bottom wall of the outer hollow-cylindrical portion faces the taper part 22 of the side wall of the inner hollow-cylindrical portion as shown in Fig.

7A. Claim 4 has been canceled. Review and reconsideration on the merits are requested.

In response to the drawing objections, reference numeral “40” at the right-hand side of Fig. 5(C) has been changed to “11” to designate inner-wall gas inlet openings. Reference numeral “26” has been removed from Fig. 6. Reference numeral “44” is described in paragraph [0086] at page 38 of the specification, and refers to the outer hollow-cylindrical portion 44 of the second comparative Example Fig. 5C. Replacement drawing sheets are submitted herewith. Withdrawal of the drawing objections is respectfully requested.

Claims 1, 3, 4 and 7-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2002-236105 to Grieser et al (JP ‘105) in view of JP 2001-099807 to Mankino et al (JP ‘807).

The Examiner considered JP ‘105 as meeting each of the terms of claim 1, except for outer-wall gas inlet openings having guiding bodies extending inward. JP ‘807 (Fig. 5a) was cited as disclosing this feature. The reason for rejection was that it would have been obvious to include the guiding bodies as taught by JP ‘807 in the sensor of JP ‘105 so as to generate a circular flow of gas and thereby separate the gas from any liquid droplets (citing the Abstract of JP ‘807).

Applicants traverse, and respectfully request the Examiner to reconsider in view of the amendment to the claims and the following remarks.

In JP '105, the tip end of the bottom wall of the outer hollow-cylindrical portion faces a *straight wall* portion of the inner hollow-cylindrical portion and not a taper part of the side wall of the inner hollow cylindrical portion as shown in Fig. 7A and as claimed in amended claim 1. JP '807 also does not show this feature of the invention.

In accordance with the configuration of amended claim 1, the gas stream flowing around both tapered parts is more smoothly produced, such that replacement of the gas to be measured inside the protector is all the more favorably achieved. Accordingly, the response speed and detection accuracy when detecting the gas components of the gas to be measured can be further improved. These effects of the invention, which could not have been expected from the cited references, are described in paragraph [0029] at pages 14-15 of the present specification.

Because the cited references, alone or in combination thereof, fail to teach or suggest each of the limitations of the gas sensor as claimed in amended claim 1, it is respectfully submitted that claims 1, 3 and 7-12 are patentable over JP '105 in view of JP '807 and withdrawal of the foregoing rejection under 35 U.S.C. § 103(a) is respectfully requested.

Claim 13 was rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2001-343356 to Kojima in view of JP '807 and H10-111265 to Yasuda.

Applicants respectfully traverse for the following reasons.

As claimed in claim 13, a connecting side wall that connects the first bottom wall 19 and the second bottom wall 32 has a tapered part 31 so that an outer diameter of the connecting side wall becomes smaller toward the front end.

This characteristic feature of claim 13, as shown in Fig. 6, is not disclosed by JP '265. Although Fig. 1 of JP '265 may suggest a double-wall construction of a first bottom wall 6 and a second bottom wall at a lower end below a portion indicated by reference numeral 12, JP '265

neither teaches nor suggests a taper formed in a connecting part which connects the  
aforementioned two bottom walls. JP '356 also does not disclose this characteristic feature of  
claim 13.

Withdrawal of the foregoing rejection under 35 U.S.C. § 103(a) is respectfully requested.

Withdrawal of all rejections and allowance of claims 1, 3 and 7-13 is earnestly solicited.

In the event that the Examiner believes that it may be helpful to advance the prosecution  
of this application, the Examiner is invited to contact the undersigned at the local Washington,  
D.C. telephone number indicated below.

The USPTO is directed and authorized to charge all required fees, except for the Issue  
Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any  
overpayments to said Deposit Account.

Respectfully submitted,



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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

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FIG.5A

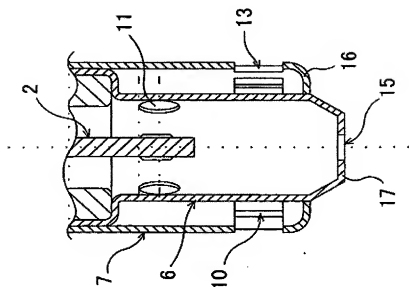


FIG.5B

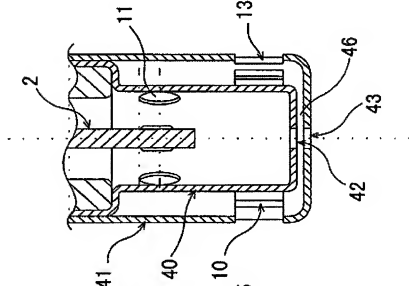


FIG.5C

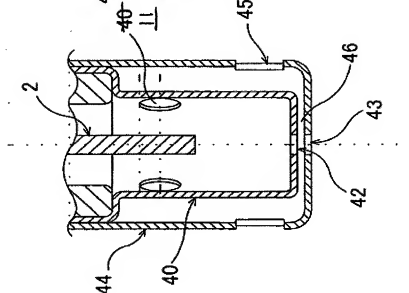


Fig. 6

